

Life after Bladex in Sweet Corn

Chris Boerboom
University of Wisconsin

Although Bladex had its faults -

Bladex provided:

Good preemergence broadleaf weed control

Rotational crop options

Atrazine alternative

Broadleaf herbicide options in sweet corn?

6 preemergence active ingredients labeled

Alachlor	Lasso, Micro-Tech	<u>+ atrazine</u> Bullet, Lariat
Dimethenamid-P	Outlook	G-Max Lite
S-metolachlor	Cinch, Dual II Magnum	Bicep Lite II Mag, Cinch ATZ Lite
Pendimethalin	Pendimax/Prowl	
Atrazine	Aatrex, others	
Simazine	Princep, others	

EPTC (Eradicane) & Butylate (Sutan+) ?

Preemergence Herbicide Options

Preemergence grass herbicides

Acetamides

Alachlor

Lasso, Micro-Tech

Dimethenamid-P

Outlook

S-metolachlor

Cinch, Dual II Magnum

pigweed and nightshade control

Dinitroanilines

Pendimethalin

Pendimax/Prowl

pigweed and lambsquarters control, velvetleaf suppression

Preemergence Broadleaf Options

Atrazine and Simazine (Princep)

Excellent crop safety

Good to excellent small-seeded broadleaf control

pigweed*, lambsquarters*, nightshade, common ragweed, smartweed

Fair large-seeded broadleaf weed control

velvetleaf*, giant ragweed

Limitations

Resistant weeds*

Atrazine prohibitions

Crop rotation restrictions

Rotational Restrictions

Atrazine

“Do not plant sugar beets, tobacco, vegetables (including dry beans), spring-weeded small grains, or small-seeded legumes and grasses the year following application, or injury may occur.”

No winter wheat after sweet corn

Corn, soybeans and sorghum following spring

Rotational Restrictions

Atrazine

Safe rotations to certain vegetable crops are likely with the low atrazine rates used in WI

Atrazine label modifications not likely until atrazine special review is completed – fall 2003

Rotational Restrictions

Simazine (Princep)

Same rotational crop statement as atrazine

Only corn can be planted the following year if rate is higher than 6 pt/a (3 lb ai/a)

Soybeans can be planted the following year if rate is less than 6 pt/a

- use tillage
- not on calcareous soils (high pH)

Management Options

Triazine resistance

pigweed – tank mix with pre grass herbicide

lambquarters – tank mix with pendimethalin or
treat post with Aim (3”) or Basagran (2”)

Rotational restrictions

- expand rotation to include soybeans or corn
- shift to 2-pass program, cultivate

Atrazine prohibition areas

- use simazine
- shift to 2-pass program, cultivate

Postemergence Herbicide Options

Broadcast

Nicosulfuron

Atrazine

Bentazon

Bentazon+atrazine

Carfentrazone

Halosulfuron

2,4-D

Directed

Ametryne

Paraquat

Accent

Aatrex, others

Basagran

Laddok S-12

Aim

Permit, Sandea

many

Evik

Gramoxone Max

Postemergence Herbicide Options

Broadcast

Nicosulfuron

Accent

primarily grass herbicide, not Bladex replacement

Atrazine

Aatrex, others

limitations previously discussed

Bentazon

Basagran

safe, weak on lambsquarters, pigweed, ragweed, nightshade

Bentazon+atrazine Laddok S-12

good weed control, only oats prohibited as rotational crop on calcareous soils

Postemergence Herbicide Options

Broadcast

Carfentrazone

Aim

good to excellent on velvetleaf, lambsquarters, pigweed, nightshade, weak on ragweed

risk of injury “responsibility of user”

drop nozzles preferred, avoid dew or rain, nozzles 18” over corn

Halosulfuron

Permit, Sandea

injury risk, weak on lambsquarters and nightshade

2,4-D

many

risk of brittle stalks

Directed herbicides

differential

require equipment and height

Future Options

Mesotrione - broadleaf herbicide

Callisto – mesotrione, postemergence

Camix – Dual II Magnum + mesotrione
preemergence

18 month rotation to alfalfa, peas, snap beans,
and other vegetable crops

Lumax – Dual II Magnum + atrazine + mesotrione
preemergence

Potential sweet corn labels in 2004

Diflufenzopyr + dicamba (Distinct)
potential sweet corn label in 2004

Future Options – Resistant Sweet Corn?

Liberty Link

- genetically engineered resistance
- international markets and consumer concerns

Clearfield technology

- resistance to Lightning (imazethapyr + imazapyr)
(Pursuit + Arsenal)
- postemergence grass and broadleaf control
- not genetically engineered, corn mutation found through tissue culture
- ALS resistant weeds, rotations

Conclusion

No immediate answers or “silver bullets” for broadleaf weed control in sweet corn in 2003

With additional planning and management changes, broadleaf weed control is possible

Help may be on the way